

41 PCTs

10/541159

JC20 Rec'd PCT/PTO 30 JUN 2005

AMENDED CLAIMS

**(Received by the International Office on March 8, 2004 (08.03.04): Claims 1-5
replaced by claims 1-3).**

1.- The videocomputer is a system-equipment through which it is intended the projection of digital images and sounds to be used mainly in transportation units, being comprised by a computer with electric, electronic and mechanic devices which in group and combined in their functions create a system capable of storing, handle, view and protect a wide amount of video and audio digital files for their projection, having a hard disk unit with a high file storing capacity, a programmed software to execute commands activating the computer for projection, carrying said projection through the audio and video output signals of the computer, a signal being directed to a sound amplifier and later to the loudspeakers, so as to a signal splitter to further reach the monitors or televisions. As being an electric-electronic functioning apparatus, it requires power supply which is provided by the source of energy of the transportation unit, this electric energy may be converted or regulated using current converters or inverters or other complying the requirements of the computer of the videocomputer. The execution of the commands is carried out by a keyboard, displaying said commands in a screen, the star or power off of the computer is executed by remote control by a key inserted to the keyboard.

2.- The unit of the computer of the videocomputer is located into the transportation unit, which according to the transportation unit requirements may have or not a supporting base having flanges to avoid the sliding of the computer, as well as shock absorbing means made of flexible rubber located at the supporting base wherein the computer is laying, or flexible rubber adhered to the bottom side of the unit of the computer of the videocomputer, which in its inner side has a hard disk which can or cannot have flexible rubber at the supporting base as shock absorbing means to avoid damages and malfunctioning thereof due to rough movements or vibrations of the transportation unit.

3.- The feeding of the files to the internal hard disk of the computer of the videocomputer is characterized by being a data transferring means from an extractable hard disk to the internal hard disk of the computer, or by an external hard disk to the internal hard disk of the computer using wire or wireless networks.

VIDEOCOMPUTER

BACKGROUND

5 In the actuality, local and foreign bus lines and private and commercial airlines offer an entertaining service to their passengers during their trip, with the objective of making it more pleasant. Today, what once was an additional service for the traveler, has become an integral part of the service, making the passenger more demanding about the quality of the digital audio and video, as well as the content of the artistic works, material
10 used to be exhibited by the transportation units.

15 In consequence, specialized services companies have been created to create an ideal programming for the exhibition of movies, series, musicals, music videos, commercial advertising, social advertising, as well as for all those private companies and government institutions who wish to buy advertisement space to promote a product or
service or social announcement via the TV closed circuit in movies, documentaries, series, music videos in transportation lines.

20 However, it still faces a great deal of problems that have not been solved yet. In consequence, different bus, air, maritime and fixed and semi fixed points enterprises have encountered a great problem regarding the form of exhibition for movies, documentaries, series, music, music videos, commercial advertisings, social announcements in TV closed circuit, to mention only a few of the most important items.

Air and bus lines have encountered a great problem regarding the form of exhibition of movies:

25 1. High costs of movie rentals.
2. The operator or person in charge of the exhibition of movies, series, documentaries, musicals, music, music video clips, commercial advertisings, social announcements in the TV closed circuit, used to show on his own account or criteria the different forms of exhibition outlined above, jeopardizing the company's image due to the bad quality of the movies shown, as well as because of some lawsuits by the production
30 companies and the copyright owner for the non authorized exhibition of the material.

3. Handling of the videotapes and DVD's by the operator or person in charge was not the most adequate, because he never changed the movie, series, documentaries, musicals, music videos, music, commercial advertisings, social announcements, for their renewal, making the service inefficient.

4. The publicity offered by the land and maritime transportation or fixed or semi fixed points companies for their passengers is not exhibited adequately because the operator does not insert the videotapes with such publicity. Adding to this the high reproduction cost, and the videotape had to be constantly edited.

5 5. The quality of the audio and video can fluctuate from acceptable to bad quality, and in some cases can lack of quality because they are movies, series, documentaries, music, commercial advertisings, social announcements, music videos which are exhibited constantly, either due to their natural wear or because of the bad handling by the operators, as well as the bad quality of VCR's, DVD's, digital video reader unit, CD's, 10 compact disk unit.

6. Piracy when exhibiting in TV closed circuit, movies, series, documentaries, music, commercial advertisings, social announcements, music videos by the different local and foreign transportation companies, as well as by the operator or person in charge of exhibit them. Overdue movies were also exhibited past their exhibition schedule.

15 7. The operator or person in charge does not care about following the schedule as indicated, having as a result the problem of showing a 2 hour movie in a trip lasting less than 1 hour, and for trips of more than 2 hours showing 1 hour movies, leaving the passenger totally unsatisfied because of the movie service.

20 8. Shipping of movies by the distribution house, as well as by the transportation company to their offices has a high cost and also means a waste of time, because of this the schedule could not be met, because the messenger service could be late in the delivery of the material to be exhibited.

25 9. Since the production houses offer to their distributors the movies, series, documentaries, etc. and at the same time they are re-rented to the transportation company for determined periods of exhibition, they have a due date, which includes the movie transportation time, as well as the labeling. Time costs, since every day that passes in the transportation costs the rent of each movie.

10. High VCR, DVD and CD player maintenance cost.

30 11. Excessive expenses in personnel for movies control and logistic by the transportation companies.

12. Storage expenses

13. Accountability for the videotapes in charge

14. Operator's distraction when changing movies and music on the road, jeopardizing the passenger's safety.

OBJECTIVE

Providing equipment for digital audio and video projection in ground, air, and maritime, massive transportation vehicles. In general this is a digital audio and video system with
 5 high a data and files storage capacity for an intelligent long lasting programming.

DESCRPTION OF THE DRAWINGS

Figure 1: Shows the videocomputer's components and connection system diagram.

10 **Figure 2:** Shows the keyboard details

Figure 3: Shows the internal Hard Disk Drive and the shock absorbing media for the internal HDD

Figure 4: Shows the support over which the videocomputer will be mounted in the transportation unit.

15

DESCRIPTION

The invention presented refers to a videocomputer which comprises a computer (Fig. 1 a) with the next minimum requirements: minimum storage capacity for 180 hours of
 20 audio and video in the hard disk, 256 Mega Bytes RAM and at least a Pentium 4 processor or equivalent at 1.7 Giga Hertz minimum, double ventilation unit, one for the processor and one for the mother board and a shock absorbing device (Fig. 3 a) in the base of the internal hard disk comprised of rubber plates placed points susceptible of movement or vibration to absorb the impact from a movement that could cause
 25 malfunctioning (Fig. 3 a). It must include a connection device (Fig. C 1) to connect an extractable hard disk (Fig. 1 c). A remote control power on switch must be available connected to a keyboard panel, (Fig. 1D, Fig. 2 A) the videocomputer also has some ports: as a minimum, has an audio and video output port, a serial port, a PS2 port to connect a keyboard and 2 USB ports.

30 Since the videocomputer's computer will be installed in some mean of transportation, which implicates movement, a supporting base was designed (Fig. 1b, Fig 4 a) quadrangular in form, which adapts to the computer base size. Each of the four sides of the base has a 90 degree angle flange divided to the top part into two sides located one in front of the other, (Fig. 4 b, Fig. B1), the flange is of a higher height than the one of the
 35 two other sides. This height should be high enough to avoid sliding of the computer. In the

two other sides (Fig. 4c, Fig. C1), the flange is of less height, this to facilitate the cable connections used in the computer of the videocomputer. On the exterior side of each angle in the base are girders (Fig. 4 d) directed to the top and bottom parts of the base, on which their endings lead to a threaded bore to screw and unscrew a bolt (Fig. 4e),

5 which in its ending has an affixing foot used to adjust the base height and to attach it to the placing spot in the ground transportation unit in the luggage rack located at the front top part inside the transportation unit.

A rubber band is attached, from end to end, (Fig. 4f, Fig. 4f1) by the interior part of the high flange (Fig. 4b, Fig 4b1), also, in the internal part of the base, circular formed 10 rubber pieces are adhered, (Fig. 4g), being these the resting place of the computer in the support base. These rubber pieces will function as shock absorbers for the computer in the event of rough movement. To gain a better fastening for the computer of the videocomputer to the support's base a flexible band is used (Fig. 4h); it is placed from side to side, fastened by the ends of the high flange.

15 The videocomputer's software works under Windows 98, NT, 2000 and XP as a minimum or equivalent. The software reproduces any kind of digital video and audio formats. This software has other functions, such as programming the activation or elimination of images and sound to comply with the exhibition periods due dates. It also has the function of establishing the communication for an informative screen for the 20 videocomputer user or operator (Fig. 1e, Fig. 2e), as well as file encrypting and decoding.

The commands are executed by the operator or the passengers through a voice command, keyboard (Fig. 1f, Fig. 2 c), connected through a PS2 port in the videocomputer's computer or through some command device, either of voice recognition or interactive screen, (Touch screen), mouse or wireless pointers, as well as any data 25 entry device connected to any port of the videocomputer's computer.

The keyboard or data entry device should include the next minimum basic functions:

- **START OR PLAY** Starts the images and sound execution
- **STOP** Stops the images and sound execution
- **PAUSE** Temporally stop the images and sound execution
- 30 • **FORDWARD** The operator can advance the images and sound execution by programmed time blocks,
- **REWIND** The operator can rewind the images and sound execution by programmed time blocks,
- **NEXT** Executes the next action in the programming.

- **PREVIOUS** Executes the previous action in the programming.
- **ENTER** Confirms the solicited action
- **NUM LOCK** Blocks the keyboard to avoid operation by unauthorized persons.
- **VOL.** Turns volume up.

5 • **VOL.** Turns volume down.

- **POWER OFF** Shuts the system down.

The above commands are shown through a screen (Fig. 1 e), which is connected to the videocomputer's computer via a serial, parallel, or any other port for data transfer. The location of this screen can be, depending on the type of vehicle, integrated to (Fig. 2) 10 or separated from the keyboard. In the event it is integrated to the keyboard, this group would be placed in the operator's area of action, and in the case it is separated from the keyboard, the location would be integrated to the instruments board or in some visible place for the operator.

15 The power supply for the screen is supplied by the computer or by other source of energy (Fig. 2d.). The remote control power on-off switch (Fig. 2a) for the videocomputer's computer is integrated to the keyboard.

The videocomputer's power supply (Fig. 1g) is generated through the transportation vehicle's power supply, and it could be any of the following:

20 1. - The transportation vehicle uses batteries that generate 24 volts, which would require the usage of a power transformer (Fig. 1 i) with a 24-volt input and a 12-volt output followed by a power inverter (Fig. 1h) with a 12-volt input and a 110-volt output, which is the energy requirement for the videocomputer.

25 2. - The transportation vehicle uses batteries that generate 12 volts, which would require a power inverter (Fig. 1 h) with a 12-volt input and a 110-volt output, which is the energy requirement for the videocomputer.

30 3. - The transportation vehicle uses batteries that generate 24 volts, which would require a power inverter (Fig. 1 h) with a 24-volt input and a 110-volt output, which is the energy requirement for the videocomputer.

4. - The transportation vehicle uses batteries that generate 24 or 12 volts, and the energy requirement for the videocomputer being of 12 to 24 volts.

FUNCTIONING

The videocomputer's computer processes the information stored in the hard disk, transforming it into video signal, which is sent via a video RCA cable or through any other kind of video cable (Fig. 1j) to a signal splitter (Fig. 1k), which multiplies this video signal to send it to several monitors or televisions placed in the interior of the transportation vehicle. (Fig. 1l), it also processes the information, transforming it into an audio signal with stereo output, primarily directed to an audio filter (Fig. 1m), which has the function of eliminating the noise produced by external agents, sending the cleaned signal to a sound amplifier (Fig. 1n) which distributes it to the loudspeakers (Fig. 1n) in the transportation vehicle.

10 The videocomputer's computer hard disk will be fed with compressed digital image and sound files through an extractable hard disk drive, (Fig. 1c), previously fed, through a data transfer operation from the extractable disk to the internal hard disk (Fig. 3), once the transfer operation is done, the extractable disk is removed and the videocomputer's computer is ready to process the fed files.

15 In the same manner, this internal hard disk feeding process (Fig. 3) can be done through a data transfer via wire network, wireless network or broad band internet, USB port or any other kind of port with the capability of connecting to a portable hard disk.

20 The liberation of the computer's hard disk space is done through the software used to activate and eliminate the images and sound files in accordance to the programmed exhibition.

The videocomputer's computer has software specially designed to operate in the passenger transportation, coordinating the projection of digital images and sound in accordance to the pre-established routes and running time and exhibition times.

25 To begin the projection the computer must be turned on through the remote control power on switch located in the keyboard (Fig. 2a), next, the screen will ask the operator to enter the command option, starting by the route number and his access code, after this, the start key must be depressed to automatically start the projection. The operator has on his keyboard multiple functions to be used conveniently, as it is to stop, forward, control the volume, pause, next projection, last projection, just by pressing the selected key.